Message

From: Taylor Morgan, Joy (EGLE) [TAYLORJ1@michigan.gov]
Sent: 3/19/2020 3:26:00 PM
To: Goodrow, Sandra [Sandra.Goodrow@dep.nj.gov]; Strynar, Mark [Strynar.Mark@epa.gov]
Subject: RE: C6O4 structure

Yes, we are hearing similar stories from industry. There are questions being asked now too on the cyclics from some environmental groups.
Maybe there is a way the definition can be broad enough to not exclude these chemicals but I'm not sure the best way to do this and hope for both of your guidance. Sandra, do you hope to add cyclics to your definition in the Tech Reg document and try to better address the refrigerant issue? Is this being released as a draft for review and comment?
So appreciate your input!

From: Goodrow, Sandra <Sandra.Goodrow@dep.nj.gov>
Sent: Wednesday, March 18, 2020 2:45 PM
To: Strynar, Mark <Strynar.Mark@epa.gov>; Taylor Morgan, Joy (EGLE) <TAYLORJ1@michigan.gov>
Subject: Re: C6O4 structure

Thanks for your thoughts on this, Mark. Yes, why should they get a pass!

At ITRC, we have several industry people that push hard for limiting the definition to protect their products. ITRC will be releasing the Tech Reg document in a few weeks with their input, but will continue for another two years to incorporate additional information. This naming and classification will be something we should try to come to a consensus about...with your help, I hope!

Thanks, again!

Stay well, everyone!
S

From: Strynar, Mark <Strynar.Mark@epa.gov>
Sent: Wednesday, March 18, 2020 1:50 PM
To: taylorj1@michigan.gov <taylorj1@michigan.gov>; Goodrow, Sandra <Sandra.Goodrow@dep.nj.gov>
Subject: [EXTERNAL] C6O4 structure

Here is a link to the ECHA webpage for this chemical. https://echa.europa.eu/substance-information/-/substanceinfo/100.207.411

Within our EPA chemicals dashboard no structure is shown yet. https://comptox.epa.gov/dashboard/dsstoxdb/results?search=DTXSID00882626

Mark

From: Taylor Morgan, Joy (EGLE) <TAYLORJ1@michigan.gov>
Sent: Wednesday, March 11, 2020 3:37 PM

To: Goodrow, Sandra <Sandra.Goodrow@dep.nj.gov>; Strynar, Mark <Strynar.Mark@epa.gov>
Subject: RE: Assistance

Hello Mark,

Recall I work for MI EGLE and am Chair of the Air Quality Workgroup for MPART (www.michigan.gov/pfasresponse). I have been tasked with coming up with a technical definition of PFAS for MPART.
Please see my note below to Dr. Sandra Goodrow with NJ DEP. I am most interested in learning about the cyclic compounds (you mention cyclic PFAS were found on our recent fume suppressant call) and refrigerants.

Let me know if you would be available to talk to Sandra and I about this in the near future.

Best regards,
Joy

Joy Taylor Morgan
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Toxics Unit
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From: Goodrow, Sandra <Sandra.Goodrow@dep.nj.gov>
Sent: Tuesday, March 10, 2020 3:04 PM
To: Taylor Morgan, Joy (EGLE) <TAYLORJ1@michigan.gov>
Subject: RE: Assistance

Hi, Joy! Great question! But you probably started something…

Here is my understanding:

The definition that ITRC struggled to get consensus on is as follows:
Per- and polyfluoroalkyl substances (PFAS) are a very large family of thousands of chemicals that vary widely in their chemical and physical properties, as well as their potential risks to human health and the environment. Buck et al. (2011) provides a very precise definition of PFAS (see text box) stating that all PFAS contain within their molecular structure a straight or branching (but not cyclic) chain of carbon atoms in which one or more of the carbon atoms have fluorine atoms attached at all bonding sites not occupied by another carbon atom and the fluorinated part of the molecule (the "perfluoroalkyl moiety") can be expressed as C_nF_{2n+1}.

This would mean that the 3,3,3-trifluoropropene would be a PFAS because one of end carbons is fully fluorinated and that one carbon (unless someone won't let us use it to fulfill two of the essential elements of its definition) has F attached at all bonding sites not occupied by another carbon atom.

But it seems that Mark Strynar, who I have no doubt is correct under his definition, does not preclude the cyclic compounds, where in the Buck definition, they would not be included- you need that moiety with 2n+1 F on a carbon. We need to know how Mark defines it and why.

And, in my opinion refrigerants would be included under PFAS- they were the original PFCs! However, these short chain PFAS have such different physical and chemical properties that they really don't belong in the same discussion. I think this is just a semantic issue and now these refrigerants go by PFCs or perfluorocarbans.

And, as far as your last compound, it seems that it would also fall under the Buck definition, as there are carbons that are fully fluorinated.

I would really like to bring Mark into the conversation. **Would you want to reply to me and CC him in on the discussion?** If he believes that the ITRC/Buck definition is flawed, I would like to catch it before it goes to print!

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From: Taylor Morgan, Joy (EGLE) <TAYLORJ1@michigan.gov>
Sent: Tuesday, March 10, 2020 2:11 PM
To: Goodrow, Sandra <Sandra.Goodrow@dep.nj.gov>
Subject: [EXTERNAL] Assistance

Hi Sandra,

Long time no talk. I hope things are going well in NJ!

I have been tasked with facilitating a group that needs to draft a PFAS definition for MPART so I have been reviewing how PFAS is defined by the ITRC and other entities before the MPART subgroup meets.

My understanding is that aromatics are not included as a PFAS but cyclic compounds can be (Dr. Mark Stryner with EPA verified this for me) and refrigerants can't be included as a PFAS. This is confusing to me as a couple of scientists have said that to be a PFAS you need at least one carbon that is fully fluorinated, although this does not seem to always be the case.
And I guess I'm not sure exactly how refrigerants are specifically defined.

We have found one of our facilities use/make a few compounds like 3,3,3-trifluoropropene (cas # 677-21-4) and 1,3,5-tris(trifluoropropyl) trimethylcyclotrisiloxane cyclic methyltrifluoropropysiloxane, d3 (cas # 2374-14-3) and I thought they were PFAS, but now I'm not sure.

Can you provide any assistance or know who I can talk to about this?

Thanks so much!

Joy

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